

Remarks

The detailed description of the specification is amended by describing that heating device 68 is physically spaced apart from process chamber 34. This amendment is fully supported by the application as originally filed at, e.g., claims 10 and 16 and Figure 5.

Claims 1-23 are pending. With this response, claims 1, 4, 6, 7, 9-13, 18, 19, and 21 are amended, claims 2, 3, 5, 8, 22, and 23 are canceled, and claims 24-27 are new. Upon entry of these amendments, claims 1, 4, 6, 7, 9-21, and 24-27 remain pending.

Six claims were canceled and 4 claims were added, thus no fee is required for claims in excess of twenty. A fee of \$86.00 is enclosed herewith for new independent claim 27. It is believed that no other fee is required for adding claims 24-27. However, if any such other fee is required, please charge all such fee(s) to the Kagan Binder Deposit Account No. 50-1775 and notify us of the same.

Amended claims 1, 4, 6, 7, 9-13, 18, 19, and 21, and new claims 24-27 are fully supported by the application as originally filed.

Support for the amendment to claim 1 can be found in the application at, e.g., page 4, lines 24 and 25, and page 8, lines 6-18.

Claims 4, 10, and 11 are amended to correct claim dependency.

Claims 6, 7, 11, and 12 are amended to correct claim form.

Support for the amendment to claim 13 can be found in the application at, e.g., page 4, lines 10-12 and page 8, lines 10 and 11, and Fig. 5.

Support for the amendment to claim 18 can be found in the application at, e.g., page 7, lines 5 and 6.

Support for the amendment to claim 19 can be found in the application at, e.g., page 13, lines 3-5.

Claim 21 is amended to include the subject matter of claims 22 and 23 as originally filed.

Support for new dependent claims 24, 25, and 26 can be found in the application at, e.g., page 7, line 21 to page 8, line 5, page 13, line 29 to page 14, line 30, and Fig. 5.

Support for new independent claim 27 can be found in the application at, e.g., page 7, lines 1-3 and 21-23, page 8, lines 6-15, page 13, lines 3-5, and Fig. 5.

Applicants request reconsideration and allowance of the application in view of the present amendments and following remarks.

Claim Rejections – 35 U.S.C. § 102

Claims 1, 12, and 21 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Sugaya et al. (U.S. Pat. No. 6,394,797).

Applicants traverse this rejection because the Sugaya et al. reference is not prior art under 35 U.S.C. § 102(b) and the claimed invention is patentable over Sugaya et al. under 35 U.S.C. §§ 102(a) and 103.

The present patent application under consideration claims the benefit of a provisional application filed September 10, 2002 (See, page 1, lines 8-11 of the present application). The date of the Sugaya et al. patent is May 28, 2002, which is not more than one year prior to the date of the present application for patent in the United States. Thus, the Sugaya et al. reference is not prior art under 35 USC 102(b).

To the extent the Examiner may rely on the Sugaya et al. reference as a 102(a) reference, Applicants expedite prosecution by responding to the Examiner's rejection as though it were made under 102(a).

The rejection of claims 1, 12, and 21 as anticipated by the Sugaya et al. reference is overcome by amendment.

Independent claims 1 and 21 are amended to include inlet and outlet plenum systems having a gas flow in fluid communication with the process chamber, and at least one of the inlet and exhaust plenum systems having a plurality of radial channels. None of these features, singly or in combination, are taught by Sugaya et al. Indeed, the subject matter added to amended independent claim 1 is similar to dependent claims 2 and 3 and the subject matter added to amended independent claim 21 is the subject matter of dependent claims 22 and 23, none of which dependent claims are rejected over Sugaya et al.

Thus, independent claims 1 and 21 are not anticipated by Sugaya et al. Likewise, claim 12, dependent on claim 1, is not anticipated by Sugaya et al.

In addition, Sugaya et al. would not have suggested or provided any motivation to modify its teachings to arrive at the subject matter of claims 1, 12, and 21. For example, Sugaya et al. do not even remotely discuss such inlet and/or outlet plenum systems having a gas flow in fluid communication with the process chamber, and much less discuss at least one of the inlet and exhaust plenum systems having a plurality of radial channels.

Accordingly, Applicants respectfully request that the rejection of claims 1, 12, and 21 under 35 U.S.C. §102 as anticipated by Sugaya et al. be withdrawn and that the patentability of claims 1, 12, and 21 over Sugaya et al. be acknowledged upon reconsideration.

Claims 1-4, 6, 7, 9, 12, 18, and 20-23 stand rejected under 35 U.S.C. 102(e) as being anticipated by Shirakawa et al. (U.S. Pat. No. 6,644,964).

Applicants respectfully traverse because, for example, Shirakawa et al. does not teach, suggest, or motivate a thermal process chamber where a wafer is positioned between two heat sources as required in independent claims 1, 18, and 20.

As the Office Action correctly points out, Shirakawa et al. illustrates a first plate portion 231 containing a heater, over which wafer is supported (See, Shirakawa et al. at col. 9, lines 29 and 30, and Figs. 8A and 8B). However, contrary to the Office Action, Shirakawa et al. do not teach that second plate portion 221 is an additional heat source. Although first plate portion 231 and second plate portion 221 appear schematically similar in Figs. 8A and 8B, Shirakawa et al. do not describe second plate portion 221 as containing a heater (See, Shirakawa et al. at, e.g., col. 9, lines 35-37). The similarity of first and second plate portions 231 and 221 stems from the fact that they are both “divided into divided plates 221a to 221g, and 231a to 231 g in a rectangular shape” (See, Shirakawa et al. at col. 9, lines 49-51). Shirakawa et al. utilize this structure in second plate portion 221 to direct nitrogen gas when subjecting a wafer to cool processing (See, Shirakawa et al. at col. 10, lines 7-22). Thus, the Office Action’s statement that second plate portion 221 is an additional heat source is incorrect. Moreover, there is no motivation or suggestion to modify second plate portion 221 to contain a heater because according to Shirakawa et al. the heater contained in first plate portion 231 is perfectly acceptable.

Accordingly, Applicants respectfully request that the rejection of claims 1, 4, 6, 7, 9, 12, 18, and 20 under 35 U.S.C. §102 as anticipated by Shirakawa et al. be withdrawn and that the patentability of claims 1, 4, 6, 7, 9, 12, 18, and 20 over Shirakawa et al. be acknowledged upon reconsideration.

Allowable Subject Matter

According to the Office Action, claims 13-17 are allowed. Applicants gratefully acknowledge such indication of allowability. Applicants have amended claim 13 by broadening “a heat source having a heater face” to “a heat source.” As discussed above, such amendment is supported by the application as originally filed and Applicants believe such amendment does not impact the patentability of claims 13-17.

According to the Office Action, claims 5, 8, 10, 11, and 19 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Based upon such indication of allowable subject matter, Applicants rewrite claim 5 as new independent claim 27 by incorporating the subject matter of claim 5, base claim 1, and intervening claims 3 and 2. However, Applicants did not incorporate the feature “in a manner that enhances a uniformity characteristic of a transfer of thermal energy from the additional heat source to the enclosed process chamber” from original claim 5 into new claim 27. Applicants believe that such deletion does not impact the patentability of new claim 27.

Applicants decline rewriting dependent claims 8, 10, 11, and 19 in independent form.

Accordingly, Applicants request that the objection of claims 5, 8, 10, 11, and 19 for being dependent from a rejected base claim be withdrawn.

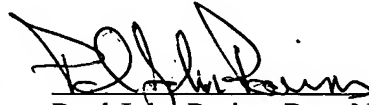
Conclusion

In view of the above remarks, it is respectfully submitted that the claims and the present application are now in condition for allowance. Approval of the application and

allowance of the claims is earnestly solicited. In the event that a phone conference between the Examiner and the Applicant's undersigned attorney would help resolve any remaining issues in the application, the Examiner is invited to contact said attorney at (651) 275-9831.

Respectfully Submitted,

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